differences in community composition of epiphytic microbes between the wheat genotype with the high and the low FHB resistance level. In parallel about 50 bacterial isolates were collected from the surface of the anthers, SDS-PAGE and RAPD PCR were used for screening. This resulted in 20 strains, all of them were tested in greenhouse trials. In parallel controls were set with media only (MRS, YM, PC). Efficacy comparable with the fungicide control was gained by using MRS media only, implicating that microorganisms enhanced by this media were able to defend the wheat plants against FHB better than the isolates from field trials.

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METSCHNIKOWIA PULCHERRIMA OUTCOMPETES POSTHARVEST PATHOGENS OF APPLE THROUGH IRON DEPLETION

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Metschnikowia pulcherrima is well known as biocontrol yeast against postharvest diseases of pome fruits. The present work was carried out to study the interaction between *M. pulcherrima* strain BIO126 isolated from apple fruits and postharvest pathogens of apple such as *Alternaria* sp. and *Botrytis cinerea* in up-taking iron for their growth and development *in vitro* and *in vivo* on apples. *M. pulcherrima* was streaked on PDA medium amended with different concentrations of iron and flooded with conidial suspensions of *Alternaria* sp and *B. cinerea* separately. A pigmented high inhibition zone was produced by the yeast strain against both pathogens under low iron concentrations whereas in high iron concentrations, less inhibition was measured *in vitro*. At the inhibition zone, conidia did not germinate and mycelial degeneration was observed. In addition, a high reduction in pathogen infection was recorded in apples cv Golden delicious treated with *M. pulcherrima* grown from low iron concentrations compared to high iron amendments *in vivo*. Apples inoculated either with *Alternaria* sp or *B. cinerea* alone recorded the highest disease attack compared to all other treatments. The *in vitro* and *in vivo* results showed a significant iron utilization by *M. pulcherrima* for the production of pulcherrimin. A high inhibition of postharvest pathogens under low iron conditions indicated the movement of precursors from *M. pulcherrima* to find out a sufficient amount of iron in the substrate to form the pigmentation. Iron depletion by *M. pulcherrima* enhanced the antagonistic activity against both postharvest pathogens in apple. Although iron competition seems to be the major mechanism of biocontrol employed by *M. pulcherrima*, other mechanisms could play an important role.

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CHITINASES FROM _MONILIOPHTHORA PERNICIOSA_, THE CAUSAL AGENT OF WITCHES' BROOM DISEASE OF CACAO: GOOD TARGETS FOR CONTROL DISEASE.

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Chitin is a homopolymer of β 1-4 N-acetylglucosamine (NAG) and it is the main component of the cell wall of various species of fungi, of the arthropod exoskeleton, and of the nematodes cuticle. Most of these organisms are responsible for drastic diseases in crop plants, and chitin becomes a good metabolic target for pest control. Chitinases are chitin-degrading enzymes and, in fungi, are involved in various functions like cell wall digestion, spore germination and differentiation, growth and hyphen lyses, chitin assimilation and mycoparasitism. We report here the first analysis of chitinase regulation and production in *Moniliophthora perniciosa*, the causal agent of the witches' broom disease of cacao. Multivariant statistical approach was employed to evaluate the effect of several variables, including carbon and nitrogen sources on chitinase production and secretion. Chitinase production by the mycelium was enhanced by peptone and chitin and repressed by glucose. Chitinase secretion was increased by yeast extract alone or in combination with other nitrogen sources, and by NAG, and repressed in presence of chitin. The chitinase activity was always higher in the mycelium than in the culture medium, suggesting a poor chitinase secretion activity, which may be directly related to the lifestyle of the fungus. Higher mycelium growth was observed when the chitinase production was the lowest. Conversely, the induction of chitinase production by chitin increased the mycelium degradation. These results suggest that the culture medium, by the induction or repression of chitinases, affected the hyphal growth as well as the global fungal development. Thus, as an essential component of the *M. perniciosa* development, chitinases may be very good targets for strategies of control disease.

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EFFECTIVENESS OF BIOLOGICAL AND CHEMICAL TRADE PRODUCTS USED IN NURSERY TO CONTROL TELLURIC PATHOGENS OF MELON CROPS

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In this study the results of experimental trials carried out for three years are reported. The investigations was aimed at identifying measures differing from the traditionally used means for controlling *Pyrenochaeta lycopersici, Macrophomina phaseolina, Rhizoctonia solani, Plectosporium tabacinum, Acremonium cucurbitacearum, Sclerotinia sclerotiorum, Rhizopycnis vagum, Fusarium* spp., the causal agents of root diseases of melon crops. Thus, the commercial biocontrol agents *Trichoderma viride, T. harzianum* and *Glomus intraradices* were tested in comparision with the fungicide Fosetyl-Al. All products controlled significatively root diseases of melon. *T. harzianum*, however, proved the most effective, especially when it was associated with Fosetyl-Al.